

REMARKS

Objection

The specification is objected to because pages 41-42 are empty pages. Applicant submits that the specification has been amended to insert Table 1 into pages 41-42. Applicant further submits that no new matter has been added because Table 1 was presented in the provisional and international application to which the instant application claims priority.

The specification is also objected to because the cross-reference does not include the international application to which the instant application claims priority. Applicant submits that the cross-reference has been amended to include the international application.

Claims 2-3 are objected to for lack of clarity. Applicant submits that the claims have been amended or canceled.

Rejections Under 35 USC §112, 1st Paragraph, Written Description

Claims 1, 4, 6-7 are rejected under 35 U.S.C. §112, first paragraph, for failing to comply with written description requirement. This rejection is respectfully traversed.

The Examiner contends that the claims read on any mammalian gene that are “highly similar” to prostate-specific

membrane antigen. Applicant submits that claim 1 has been amended to recite an isolated DNA encoding a mammalian prostate-specific membrane antigen-like protein, wherein the protein has the amino acid sequence of SEQ ID NO.2. In one embodiment, the claimed DNA has the sequence of SEQ ID NO.1. Applicant submits that the claim 1 as amended meets the written description requirement because SEQ ID NOs.1 and 2 have been clearly described in the specification. Accordingly, Applicant respectfully requests that the rejection of claims 1, 4, 6-7 under 35 U.S.C. §112, first paragraph, be withdrawn.

Rejections Under 35 USC §112, 1st Paragraph, Enablement

Claims 1, 4, 6-7 are rejected under 35 U.S.C. §112, first paragraph, for lack of enablement. This rejection is respectfully traversed.

The Examiner contends that the specification, while being enabling for SEQ ID NOs.1 and 2, does not reasonably provide enablement for a DNA fragment encoding a mammalian prostate-specific membrane antigen-like protein and hybridizing species thereof that encodes a mammalian prostate-specific membrane antigen-like protein. As discussed above, the claims have been

amended to recite SEQ ID NOs.1 and 2. Applicant submits that the scope of the amended claims is commensurate with the enablement provided in the disclosure. Accordingly, Applicant respectfully requests that the rejection of claims 1, 4, 6-7 under 35 U.S.C. §112, first paragraph, be withdrawn.

Rejections Under 35 USC §112, 1st Paragraph, Enablement

Claims 6-7 are rejected under 35 U.S.C. §112, first paragraph, for lack of enablement. The Examiner contends that the specification, while being enabling for a host cell transfected with a vector comprising SEQ ID NO.1, does not reasonably provide enablement for a host cell transfected with a vector comprising a DNA encoding a mammalian prostate-specific membrane antigen-like protein. The Examiner further contends that the claims read on an *in vivo* host cell. The rejection is respectfully traversed.

Claim 6 has been amended to recite a host cell comprising a vector encoding a protein of SEQ ID NO.2, wherein said vector is introduced into the host cell *in vitro* or *ex vivo*. In one embodiment, the vector comprises DNA of SEQ ID NO.1. Applicant submits that the scope of the amended claim 6 is commensurate with the enablement provided in the specification in view of the full

disclosure of SEQ ID NOs.1 and 2. Moreover, Applicant submits that claim 6 as amended does not read on an *in vivo* host cell. Accordingly, Applicant respectfully requests that the rejection of claims 6-7 under 35 U.S.C. §112, first paragraph, be withdrawn.

Rejections Under 35 USC §102(b)

Claim 1 is rejected under 35 USC §102(b) as anticipated by **Su et al.** (1995). This rejection is respectfully traversed.

Applicant submits that **Su et al.** neither teach a mammalian prostate-specific membrane antigen-like protein that has the amino acid sequence of SEQ ID NO.2 as shown herein, nor do **Su et al.** teach a DNA of SEQ ID NO.1 that encodes said protein as claimed herein. **Su et al.** only teach an alternatively spliced variant of prostate-specific membrane antigen of 693 amino acids in length (page 1443, left column, first line) encoded by a cDNA of 2387 nucleotides (see abstract). In contrast, the prostate-specific antigen of the present invention is 442 amino acids in length (SEQ ID NO.2) encoded by a DNA of 1992 nucleotides (SEQ ID NO.1). Hence, the protein of the present invention is clearly different and distinct from that disclosed in **Su et al.** Since **Su et al.** do not teach each and every aspect of the present invention, **Su et al.** do not anticipate claim 1 of the present

invention. Accordingly, Applicant respectfully requests that the rejection of claim 1 under 35 U.S.C. §102(b) be withdrawn.

Rejections Under 35 USC §102(e)

Claims 1, 4, 6-7 are rejected under 35 USC §102(e) as anticipated by U.S. Patent No. 6,387,888. This rejection is respectfully traversed.

Applicant submits that U.S. Patent No. 6,387,888 neither teaches a mammalian prostate-specific membrane antigen-like protein that has the amino acid sequence of SEQ ID NO.2 as disclosed herein, nor does U.S. Patent No. 6,387,888 teach a DNA of SEQ ID NO.1 that encodes said protein as claimed herein. U.S. Patent No. 6,387,888 only teaches a truncated form of prostate-specific membrane antigen comprising the extracellular domain and lacking functional transmembrane and cytoplasmic domains (see claim 1). In contrast, the prostate-specific antigen of the present invention only has N-terminal truncation, not truncation in the transmembrane and cytoplasmic domains (see Figure 4). As shown in Figure 4, the prostate-specific protein of the present invention does not have any deletion in the C-terminal domains as compared to prostate-specific membrane antigen. Indeed, the protein disclosed in

the present invention is highly homologous to the C-terminal domains of prostate-specific membrane antigen. Hence, the protein of the present invention is clearly different and distinct from that disclosed in U.S. Patent No. 6,387,888. Since U.S. Patent No. 6,387,888 does not teach each and every aspect of the present invention, U.S. Patent No. 6,387,888 does not anticipate the claims of the present invention. Accordingly, Applicant respectfully requests that the rejection of claims 1, 4, 6-7 under 35 U.S.C. §102(e) be withdrawn.

Rejections Under 35 USC §102(e)

Claim 2 is rejected under 35 USC §102(e) as anticipated by U.S. Patent No. 5,962,237. This rejection is respectfully traversed.

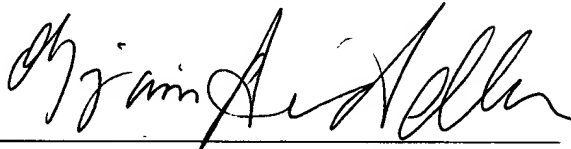
The Examiner contends that U.S. Patent No. 5,962,237 teaches a 50 nucleotide-long DNA fragment which is 100% homologous to nucleotides 1352-1401 of SEQ ID NO.1 disclosed herein. Applicant submits that claim 2 has been amended to recite an isolated DNA which has the sequence of SEQ ID NO.1. Claim 2 as amended does not read on any DNA fragment shorter than the full length sequence of SEQ ID NO.1. Accordingly, Applicant respectfully

requests that the rejection of claim 2 under 35 U.S.C. §102(e) be withdrawn.

This is intended to be a complete response to the Office Action mailed February 25, 2004. If any issues remain outstanding, the Examiner is respectfully requested to telephone the undersigned attorney of record for immediate resolution.

Respectfully submitted,

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